

In the Claims

1. (Currently Amended) A flip-chip light-emitting device, comprising:

a transparent substrate comprising a main surface and a surface opposite to said main surface, wherein said surface opposite to said main surface is the light-emitting surface of said device;

a semiconductor stacked structure arranged over—a said main surface of said transparent substrate wherein said stacked structure comprises an n-type GaN-based III-V Group compound semiconductor layer adjacent to said main surface and a p-type GaN-based III-V Group compound semiconductor layer adjacent to said n-type semiconductor layer;

a first electrode being in electrical contact with said n-type semiconductor layer;

and

a second electrode being in electrical contact with said p-type semiconductor layer;

wherein said second electrode has good reflectivity of light and covers most of the outer surface of said p-type semiconductor layer and is positioned opposite to said light-emitting surface of said substrate.

2. (Original) The device of Claim 1 wherein said stacked structure further comprises an active layer placed between said n-type semiconductor layer and said p-type semiconductor layer.

3. (Original) The device of Claims 1 or 2 further comprising an insulating layer at least coated on the side surface of the stacked structure, a portion of said first electrode and a portion of said second electrode.

1           4. (Original) The device of Claims 1 or 2 further comprising a base which has a first  
2           and a second conductive portions respectively connected to said first and second electrodes.

1           5. (Original) The device of Claim 4 wherein said base can be a conductive lead frame, a  
2           glass lead frame, a circuit board or a thin-film circuit.

1           6. (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer  
2           structure comprising a light-transmitting conductive layer and a layer of aluminum (AL) or silver  
3           (Ag).

1           7. (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer  
2           structure of nickel/gold/titanium/ aluminum (Ni/Au/Ti/Al), Indium-Tin Oxide/aluminum  
3           (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag).

1           8. (Currently Amended) A flip-chip light-emitting device, comprising:  
2                   a transparent substrate comprising a main surface and a surface opposite to said  
3           main surface, wherein said surface opposite to said main surface is the light-emitting surface of  
4           said device;  
5                   a semiconductor stacked structure arranged over [a] said main surface of said  
6           transparent substrate wherein said stacked structure comprises an p-type GaN-based III-V group  
7           compound semiconductor layer adjacent to said main surface and a n-type GaN-based III-V  
8           Group compound semiconductor layer adjacent to said p-type semiconductor layer;

9 a first electrode being in electrical contact with said n-type semiconductor layer;

10 and

11 a second electrode being in electrical contact with said p-type semiconductor

12 layer;

13 wherein said first electrode has good reflectivity of light ~~and~~ and covers most of

14 the outer surface of said n-type semiconductor layer and is positioned opposite to said light-

15 emitting surface of said substrate.

1 9. (Original) The device of Claim 8 wherein said stacked structure further comprises an

2 active layer placed between said n-type semiconductor layer said the p-type semiconductor layer.

1 10. (Original) The device of Claims 8 or 9 further comprising an insulating layer at least

2 coated on the side surface of the stacked structure, a portion of said first electrode and a portion

3 of said second electrode.

1 11. (Original) The device of Claims 8 or 9 further comprising a base which has a first

2 and a second conductive portions respectively connected to said first and second electrodes.

1 12. (Original) The device of Claim 11 wherein said base can be a conductive lead frame,

2 a glass lead frame, a circuit board or a thin-film circuit.

1 13. (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer

2 structure comprising a light-transmitting conductive layer and a layer of aluminum (Al) or silver

3 (Ag).

1           14. (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer  
2 structure of titanium/aluminum (Ti/Al), titanium/silver (Ti/Ag), Indium-Tin Oxide/aluminum  
3 (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag).